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THERMAL PROTECTION OF FLUORESCENT LAMP BALLASTS

Subsequent to publication of the directive which appeared in the October 1961 issue of the Alberta Quarterly Bulletin concerning the addition of thermal protection to fluorescent lamp ballasts, which was based on the August 15th, 1961, Canadian Standards Association Laboratories Bulletin No. 523, further developments have resulted in the issuance, by the laboratories, of a superseding Bulletin.

The new C.S.A. Bulletin (No. 523A) stipulates that after July 1st, 1962, all new production of indoor fluorescent fixtures having ballasts of the 2-40 watt rapid start or "slim line" (2-96 in. and 2-72 in.) types, intended for connection to a supply of 300 volts or less, shall have ballasts meeting the new requirements. This Bulletin also makes it mandatory that after January 1st, 1963, all new production of fluorescent fixtures of all types and voltages, and for all uses, but excepting fixtures using simple reactance type ballasts, shall have ballasts which comply with the new requirements in order to be eligible for C.S.A. certification.

In the October 1961 Quarterly Bulletin it was emphasized that when fluorescent fixtures meeting the new requirements became available, fixtures not incorporating thermally-protected ballasts would no longer be considered acceptable for mounting on low density cellulose fibreboard. While the basic policies expressed in this Bulletin are to remain unchanged the extension of time by the C.S.A. Laboratories Bulletin mentioned, for certain types of fixtures to incorporate ballasts of thermally-protected types, necessitates the establishment of local specific mandatory dates for the installation of the thermally-protected ballasts of the various types.

Since the Laboratories are now certifying the 2-40 watt rapid start or "slim line" (2-96 in. and 2-72 in.) types incorporating thermal protection, it will be necessary, in accordance with Rule R30-102, Canadian Electrical Code, to use thermally-protected units when fixtures are mounted on low density materials. However, installations commenced subsequent to July 1st, 1962, involving fixtures of these types must have thermally-protected ballasts even though low density materials may not be involved.

For installations falling within the scope of the Canadian Electrical Part I Code undertaken after January 1st, 1963, fluorescent fixtures of all types and voltages, and for all uses, but excepting fixtures using simple reactance type ballasts, shall have thermally-protected ballasts.

In accordance with the above listed policies, all ballasts of the 2-40 watt rapid start or "slim line" (2-96 in. and 2-72 in.) types, used for replacement purposes, must now be of the thermally protected types when incorporated in fixtures mounted on low density materials. Subsequent to January 1st, 1963, all fluorescent fixture ballasts used for replacement purposes must be of the thermally-protected types even though low density materials may not be involved.

BONDING OF THE NEUTRAL TO THE ENCLOSURE OF SUB-SERVICE CIRCUIT BREAKER PANELS ON RURAL INSTALLATIONS.

Changes to Canadian Standards Association requirements are such that the manufacturers of distribution panels are no longer permitted to provide means for bonding the neutral bar to the enclosure.

In accordance with the January 1959 Alberta Quarterly Bulletin distribution panels without a main disconnect may be used for a rural sub-service under certain conditions. Since distribution panels manufactured to the new specification do not incorporate a ready means of bonding between the neutral bar and the panel housing, acceptable bonding must be provided by the installer in the field if these are used for rural sub-services. Such bonding may consist of suitable bolts and lugs or equivalent. Bonding devices for these panels may also be obtained as separate items from electrical supply houses.

RATING OF SINGLE CONDUCTORS IN DIRECT EARTH BURIAL.

Numerous inquiries are received with respect to the acceptability of the use of Table I, Canadian Electrical Code, in determining the maximum allowable current carrying capacity of directly buried single conductors with metallic sheaths, on the basis that heat dissipation under direct burial conditions may be equivalent to that encountered if the conductors were suspended in free air.

Although the Canadian Electrical Code does not presently contain Rules which specifically state the maximum currents directly buried metallic sheathed conductors may carry, the results of tests now available would indicate that the temperature rise on such conductors directly buried in the earth is somewhat less than that of identical conductors run in free air. In view of this evidence it would seem reasonable to permit these types of conductors, when directly buried in the earth, to be rated in accordance with Table I.

It is emphasized, however, that these ratings can only be applied if installation procedures are such as to maintain separation of individual conductors adequate to prevent mutual heating effects. It must also be kept in mind that although conductors may be run separately underground, or in free air, for a portion of their length, the increased ratings cannot be applied if the conductors, at any point or portion of their total length, are enclosed in raceways or equivalent such as might be encountered in effecting entry to buildings, switchgear, etc.

Careful consideration must, in addition, be given in the application of relatively high allowable current carrying capacities, to excessive potential drops which may be encountered in lengthy conductor runs if the conductors are operated at or near the increased maximum allowable currents.

1962 PROVINCIAL CODE COMMITTEE MEETING (ALBERTA).

The 1962 Meeting of the Provincial Code Committee has been scheduled for February 21st, 22nd and 23rd, 1962.

Persons associated with the electrical industry in Alberta are reminded that any items they wish considered for inclusion on this meeting's agenda should be submitted to the Provincial Electrical Protection Branch, or the Committee member representing their section of the industry, not later than February 5th, so that they may be assembled and the agenda distributed in advance of the meeting. This procedure is considered desirable in order that the Committee members may have the opportunity of studying the agenda items and to discuss them with the groups they represent, prior to the meeting.

The Meeting will be held in Room 118 of the Administration Building located at 98th Avenue and 109th Street, Edmonton, Alberta.

ELECTRICAL ACCIDENTS INVESTIGATED BY THE PROVINCIAL ELECTRICAL PROTECTION BRANCH

During 1961, a total of six fatal electrical accidents were investigated by inspectors of the Provincial Electrical Protection Branch. Two of these fatalities were electrocutions occasioned by contact with 110 volts. The fact that two out of a total of six fatal accidents were the result of contact with the normal utilization voltages again emphasizes the need for compliance with safety regulations and the adoption of safety operating procedures where voltages of this order are involved.

Four fatal accidents were caused by inadvertent contact with voltages in the high potential range, with two of these resulting in the electrocution of skilled and experienced power linemen.

A total of 91 non-fatal electrical incidents, including 39 cases of electrical injury to persons, were investigated in 1961. Of the non-fatal group, 18 of the accidents involved injury to skilled electrical workers, electricians and power linemen. Twenty-five out of the 39 personal injury incidents were caused by voltages in the low potential range, and 14 by high potential distribution voltages.

Since the investigations of the accidents involving electrical workers revealed that many of these were the direct result of individuals attempting to perform work on equipment that should have been de-energized the necessity of electrical workers adopting the recognized safety operating procedures cannot be over-emphasized.